

ABSTRACT OF THE DISCLOSURE

A method of forming a double-sided capacitor using at least one sacrificial structure, such as a sacrificial liner or a sacrificial plug. A sacrificial liner is formed along sidewalls of at least one opening in an insulating layer on a semiconductor wafer. A first conductive layer is then formed over the sacrificial liner. The sacrificial liner is then selectively removed to expose a first surface of the first conductive layer without damaging exposed components on the semiconductor wafer. Removing the sacrificial liner forms an open space adjacent to the first surface of the first conductive layer. A dielectric layer and a second conductive layer are formed in the open space, producing the double-sided capacitor. Methods of forming a double-sided capacitor having increased capacitance and a contact are also disclosed. In addition, an intermediate semiconductor device structure including at least one sacrificial structure is also disclosed.